

Remarks

The Official Office Action of May 20, 2005 and the references therein made of record have been carefully considered.

Originally submitted claims were rejected either as fully met by Hockstein 5,857,767 or as unpatentable over Hockstein 5,857,767 in view of Song 6,670,751.

The rejection of claims on Hockstein and Song is based on the statement:

Song teaches adding metal coating to the holes or void space (24) of Hockstein to make the light emitting elements release heat at a greater efficiency (see column 5, line 66 to column 6, line 4). Song also teaches in Figures 4 and 7, where metal paste or lump (18a-18e) fills the bottom hole of the light emitting device (23) for the purpose of achieving superior heat sink properties compared to the light emitting elements which have holes for heat sink only.

Such a modification of Hockstein, i.e. filling the holes 24 with metal paste, has the effect of shorting out the circuit traces 18 of Hockstein so that no current passes through the LED and that no substantial amount of heat is generated, meaning that the modification proposed by the Examiner converts an operative Hockstein device into an inoperative one. It is submitted that such modifications are not obvious and no combination of Hockstein and Song is sustainable.

Amended claim 1 now recites:

a thermal conductor, having therein a metal, fixed relative to the substrate, spaced from and electrically

isolated from the circuit traces, the entire flat section of the base of at least some of the light emitting elements being in conductive heat transmitting relation with the substrate.

It will be seen that amended claim 1 recites that the thermal conductor is electrically isolated from the circuit traces. Claim 25 is very similar. It is accordingly submitted that independent claims 1 and 25 and their dependent claims 2-17 are allowable over the art of record.

Regarding claim 5, those skilled in the art can recognize a plasma applied coating by looking at it. Accordingly, this term is appropriate for apparatus claims.

Regarding claim 12, applicant cannot find any mention in Hockstein that the circuit traces are thin films. Thick and thin films are terms well understood in the art as explained in the specification beginning in the paragraph bridging pages 3 and 4 and in the paragraph bridging pages 9 and 10. It is accordingly submitted that Hockstein discloses a thick film device and not a thin film device. In the event the Examiner continues a rejection of claim 12 on Hockstein, it is requested that the Examiner point out where Hockstein discloses a thin film circuit trace.

Regarding claims 15 and 16, Hockstein discloses a conductive epoxy as the securing technique for bonding the LED terminals to the circuit traces. So far as applicant can determine, Hockstein makes no mention of solder or wire-bonded connections. In the

event the Examiner continues a rejection of claims 15 and 16 on Hockstein, it is requested that the Examiner point out where Hockstein discloses solder or wire-bonded connections.

Claim 26 recites a shiny metallic area comprising a silver rich coating electrically isolated from the circuit traces for reflecting light from the light emitting elements away from the substrate thereby increasing useful light from the assembly and reducing energy absorption by the substrate. Hockstein clearly has no such feature.

Newly submitted independent claim 30 and its dependent claims 31-36 are directed to the embodiments of Figures 1, 3 and 4. It will be seen that claim 30 requires that the light emitting elements have

a thermally conductive base, electrically isolated from the circuit traces, providing a flat section of predetermined area, the entire flat section being in conductive heat transmitting relation with the substrate.

It is accordingly submitted that this application is in condition for allowance and early steps toward that end are earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "G. Turner Moller".

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361/883-7257
September 16, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of
Thomas M. Morris
Serial Number 10/728,671
Filed: December 5, 2003



For: LIGHT EMITTING ASSEMBLY WITH HEAT DISSIPATING SUPPORT

Supplemental Prior Art Statement

Mail Stop Amendments
Commissioner of Patents
P. O. Box 1450
Arlington, Virginia 22203

Dear Sir:

Applicant has recently become aware of U.S. Printed application 2003/0193055 to Robert H. Martter, published October 16, 2003. This patent application is not as relevant as Hockstein 5,857,767 but it does disclose a metal heat sink having a dielectric coating, thick film circuit traces on the dielectric coating and a LED bonded to the circuit traces. A copy is enclosed.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on 9/19/05

G. Turner Moller
Reg. No. 22,978

9/19/05

Date

Signature